



SPECIFICATIONS

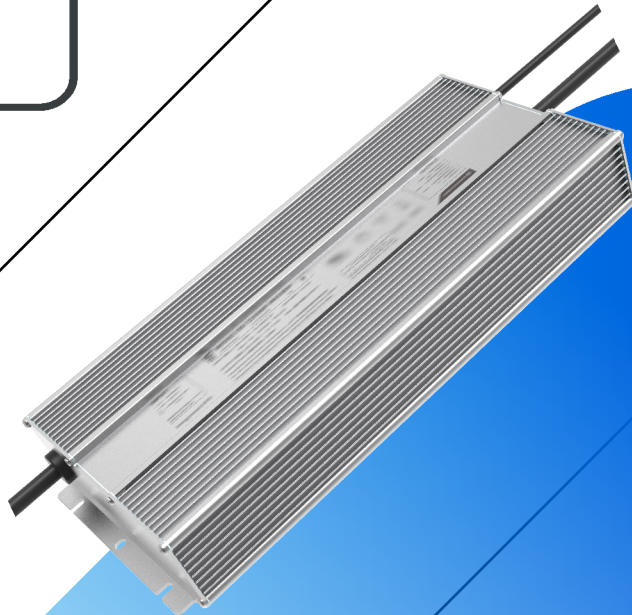
SS-1200NP-M500* CC DRIVER

Model: SS-1200NP-M500*

Power: 1200W

Rev.: V03

Release date: 2026-06-26



SS-1200NP-M Series LED Driver

Features

- Efficiency up to 97.5%
- Dimming: 0-10V/PWM/Resistor,DALI-2,DMX-RDM
- Surge protection: CM: 10kV, DM: 6kV
- AUX Power: 12V/0.3A
- Constant Lumen, Life Warning
- External NTC to Protect LED Module
- Standby Power<0.5W
- IP67
- Communication with PC
- Protections: SCP/OTP
- Warranty: 5 years



IP67

RoHS

Description

SS-1200NP-M is 1200W non-isolated constant current LED driver with 180-528Vac input and wide O/P voltage range and adjustable O/P current by program. LED luminaire manufactures can easily design luminaires and reduce cost

Applications:

Horticulture lighting, Stadium lighting, Fish lighting

Model List:

Model	AC Input Range	Max. Pout	Vout Range	Full Power Vo Range	Iout	THD (Typ.)	PF(Typ.)	Eff.(Typ.)	Max.Tc
SS-1200NP-M500*	180-528Vac	1200W	150-500V	252-500V	0.7-4.76A	8%	0.97	96.5%	90°C

Note:

1.Default Tested: at 347Vac, full load, Ta 25°C;

2.The performance of the LED Driver can be guaranteed within the full power Vo range. The voltage lower than full power Vo range, it is need to test the performance with the LED module ;

SS-1200NP-M Series LED Driver

“*” Means Additional Function

“*”	DMX (suffix:X)	DALI (suffix:D)	AUX 12V (suffix:H)	NTC (suffix:N)	Timing	0-10V/PWM Dim /Resistor (suffix:B)	Output- Ground	Remark
BH			✓		✓	✓		
BHN			✓	✓	✓	✓		
DH		✓	✓		✓			
DHN		✓	✓	✓	✓			
XH	✓		✓		✓			
XHN	✓		✓	✓	✓			
BH-G			✓		✓	✓	✓	
BHN-G			✓	✓	✓	✓	✓	
DH-G		✓	✓		✓		✓	
DHN-G		✓	✓	✓	✓		✓	
XH-G	✓		✓		✓		✓	
XHN-G	✓		✓	✓	✓		✓	

SS-1200NP-M Series LED Driver

Input Characteristics:

Parameter	Min.	Typ.	Max.	Remark
Rated AC Input Range	200Vac		277Vac	<Ta:45°C
	277Vac		480Vac	<Ta:50°C
AC Input Range	180Vac		528Vac	
Input Frequency Range	47Hz	50/60Hz	63Hz	
Max Input Current			7.0A	200Vac, Full load
Max Input Power			1400W	200Vac, Full load
Max Inrush Current(220Vac)			25A	Cold start
Max Inrush Current(347Vac)			25A	Cold start
Max Inrush Current(400Vac)			25A	Cold start
Max Inrush Current(480Vac)			25A	Cold start
Standby Power			0.5W	230Vac/50Hz, Dim-off
Power Factor	0.95	0.97		220Vac/50Hz, Full load
	0.90			200-480Vac, 70-100% load
THD		8%	10%	347Vac/60Hz, Full load
			20%	200-480Vac, 70-100% load

SS-1200NP-M Series LED Driver

O/P Characteristics:

Parameter	Min.	Typ.	Max.	Remark
O/P Voltage Range	150V		500V	Power derated @150-252V
Rated O/P Voltage	252V		500V	$P_o = V_o \cdot I_o = 1200W$, Full load
Rated O/P Current	2.4A		4.76A	4.76A for 252V, 2.4A for 500V
Adj. O/P Current (AOC) Range	0.7A		4.76A	Adjustable by program
No Load Voltage			600V	
Efficiency @220Vac	94.0%	96.0%		O/P 500V/2.4A
Efficiency @347Vac	94.5%	96.5%		O/P 500V/2.4A
Efficiency @400Vac	95.0%	97.0%		O/P 500V/2.4A
Efficiency @480Vac	95.0%	97.0%		O/P 500V/2.4A
O/P Current Tolerance	-5%		+5%	
O/P Current Ripple(PK-AV)		5%	10%	Full load
Start-up Current Overshoot			10%	Full load
Start-up Time			0.5S	230Vac, Full load
			0.7S	DALI-2
			1S	DMX
Line Regulation	-2%		+2%	Full load
Load Regulation	-2%		+2%	
Temperature Coefficient	-0.03%/°C		+0.03%/°C	T _c : 0°C~90°C
OTP	90°C	95°C	110°C	Drop current when OTP, and it can be automatically restored after the abnormality is removed.
Short Circuit Protection				Driver will not be damaged, Hiccup mode(BH model)
				Driver will not be damaged, Constant current mode(DH model and XH model) Shut down(DH model Optional)
Strobe Function				Frequency settable from 0.1~44fps from 100% dimming to 0% change

SS-1200NP-M Series LED Driver

Other Characteristics:

Parameter		Min.	Typ.	Max.	Remark
AUX Power	O/P Voltage	10.8V	12V	13.8V	
	O/P Current			300mA	
0-10V Dimming (Optional)	Dim Vmax	0V		12V	
	Dim Range	10%loset		100%loset	DIM+ source current 110uA .
	Rec.Dim Range	0V		10V	Dimming prohibits reverse connection.
PWM Dimming (Optional)	PWM High	9.8V		10.2V	
	PWM Low	0V		0.3V	DIM+ source current 110uA .
	Frequency	1KHz		2KHz	Dimming prohibits reverse connection.
Resistor Dimming (Optional)	PWM Duty	0%		100%	
	Resistance	0Kohm		100Kohm	
Dim to Off	Dim Range	10%		100%	DIM+ source current 110uA .
	Dim off	7%	8%	9%	By DC voltage, PWM, resistance dimming ratio
	Dim on	9%	10%	12%	By DC voltage, PWM, resistance dimming ratio
DALI Dimming Level		1-170(10%)		254(100%)	
DMX Dimming Level		1-26(10%)		255(100%)	
NTC Founction(Optional)		By programming			External resistance value 10K Ω , B value 3950 or 3435 NTC thermistor, set parameters through corresponding programs
Timing Curve(Optional)		By programming			Set by program
DALI Dimming(Optional)		Meet DALI-2			
Constant Lumen(Optional)		By programming			Set by program
Life Warning(Optional)		By programming			Set by program
Life Time(Tc \leq 75°C)		50,000 hours			80% Load, 347Vac
MTBF		198,700 hours			347Vac, Full load, Ta=25°C (MIL-HDBK-217F)
IP Grade		IP67			
Tc		90°C			
Warranty		5 years			Tc: 75°C
Net Weight		3000g			
Dimension		302mm*125mm*44.5mm			L x W x H

NOTE: 1.All the parameters above are tested Ta 25°C and LED load, unless specified.

2.When using resistor dimming (parallel connection of dimming wires), if the number of parallels is: N, the dimming resistor should be realized 0-100% dimming range, resistance value: $91K\Omega/N$.

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SS-1200NP-M Series LED Driver

Environmental Requirements

Parameter	Min.	Typ.	Max.	Remark
Operating Temperature(Tcase)	-40°C	25°C	+90°C	
Storage Temperature	-40°C	25°C	+90°C	
Operation Humidity	10%RH		90%RH	
Storage Humidity	5%RH		95%RH	
Altitude	-65m		4000m	

Safety and EMI/EMS Standards

Certification	Standard	Status	Remark
UL/cUL	UL8750 CSA C22.2 No.250.13	✓	
ENEC	EN 61347-1 EN 61347-2-13 EN IEC62384	✓	
RCM	AS/NZS61347.2.13		
CCC	GB/T 19510.1 GB/T 19510.213	✓	
CE	EN 61347-1 EN 61347-2-13 EN 62493	✓	
UKCA	EN 61347-1 EN 61347-2-13 EN 62493	✓	

EMI/EMS	Criterion	Remark
Conduction Emission	EN IEC 55015	
Radiation Emission	EN IEC 55015	
Harmonic Current Emissions	EN IEC 61000-3-2	Class C
Surge	IEC/EN61000-4-5	DM: 6kV,CM: 10kV,Criterion B
	ANSI/C82.77-5	DM: 6kV,CM: 6kV,Criterion B
Ring Wave	IEC/EN 61000-4-12;ANSI/C82.77-5	DM: 6kV,CM: 6kV,Criterion B

SS-1200NP-M Series LED Driver

Safety Test Items:

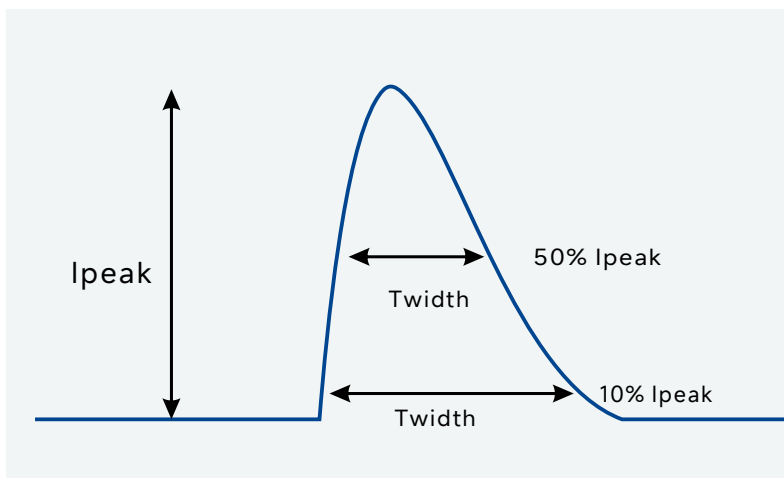
Safety Test Items	Technical Indicators			Remark
Insulation Requirements	UL Insulation Requirements	ENEC Insulation Requirements	CCC Insulation Requirements	
Input-Case	2U+1000	2U+1000	2U+1000	Basic insulation
Input-Dim	2U+1000	4U+2000	4U+2000	Reinforced insulation B model and X model
	2U+1000	2U+1000	2U+1000	Basic insulation D model
Dim-Case	500Vac	500Vac	500Vac	Basic insulation B model and X model
	500Vac	2U+1000	2U+1000	Basic insulation D model
Insulation Resistance	$\geq 10M\Omega$			Input-DIM, Test voltage: 500Vdc
Ground Resistance	$\leq 0.1\Omega$			25A/1min
Leakage Current	$\leq 0.75mA$			480Vac

NOTE:

1. SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference as component.
2. Please short (ACL and ACN), (V+ and V-), (Dim+ and Dim - and Vaux+) when Hi-pot test (Turn off ARC) .

Performance Curves:

Input Inrush Current



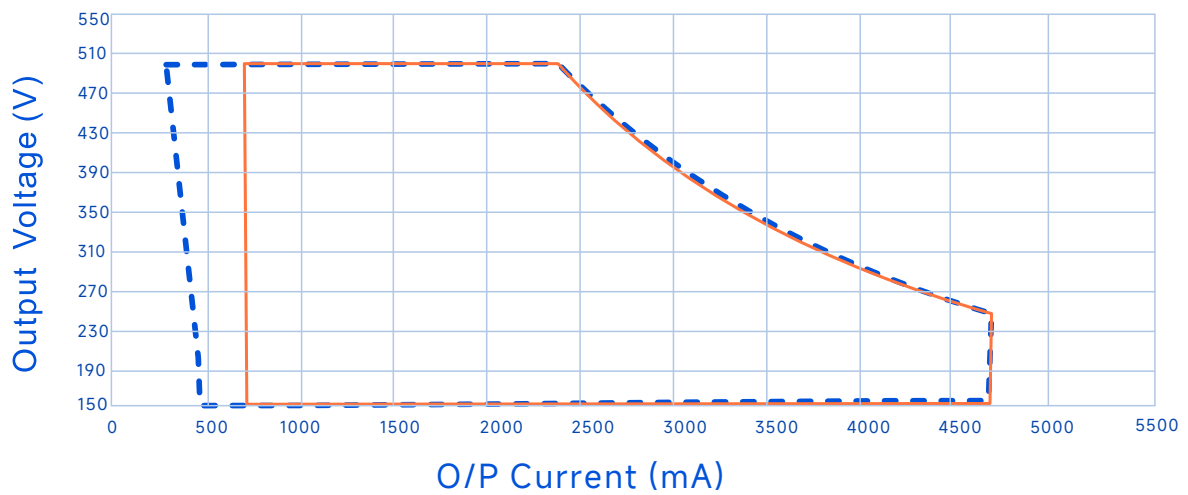
Vin	Ipeak	T(@10% of Ipeak)	T(@50% of Ipeak)
220Vac	25A	4mS	3mS
347Vac	25A	5mS	4mS
400Vac	25A	5mS	4mS
480Vac	25A	7mS	5mS

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SS-1200NP-M Series LED Driver

Performance Curves:

O/P Voltage Vs. O/P Current(Dim/AOC Window)

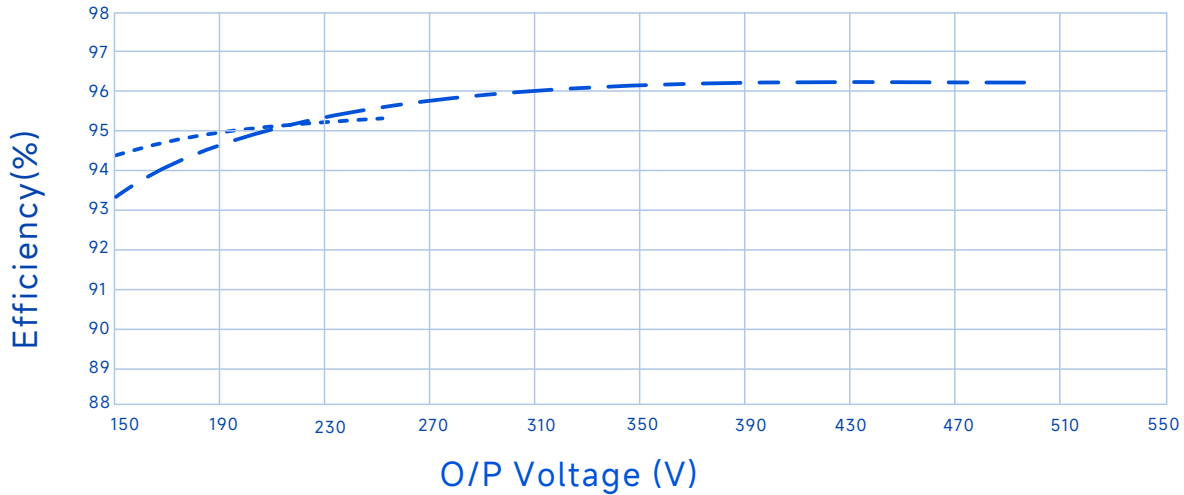


----- Dimming Window — AOC Window

SS-1200NP-M Series LED Driver

Performance Curves:

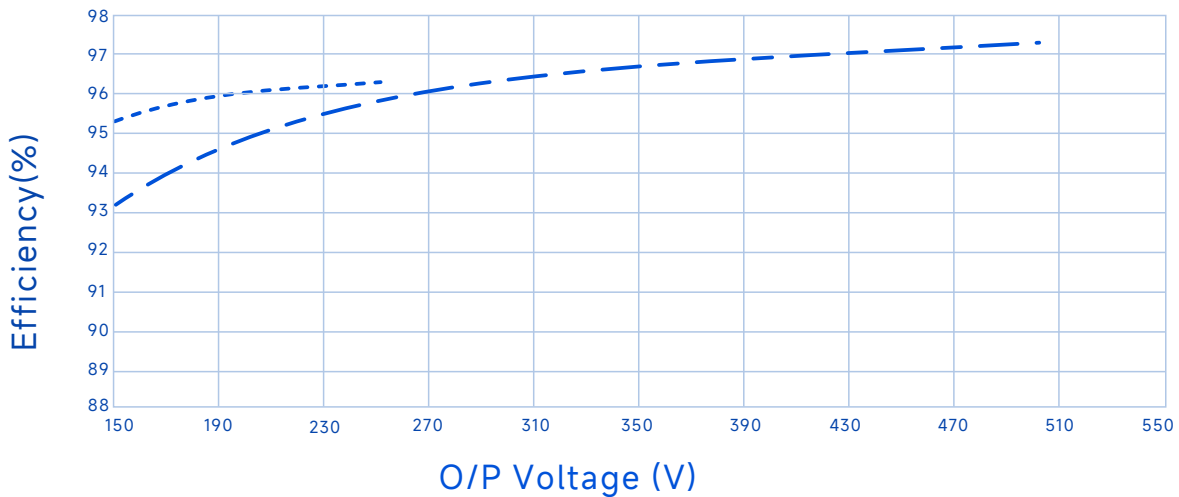
Efficiency Vs. O/P Voltage ($V_{in}=220V_{ac}$)



----- $I_o=4760mA$

- . - . $I_o=2400mA$

Efficiency Vs. O/P Voltage ($V_{in}=347V_{ac}$)



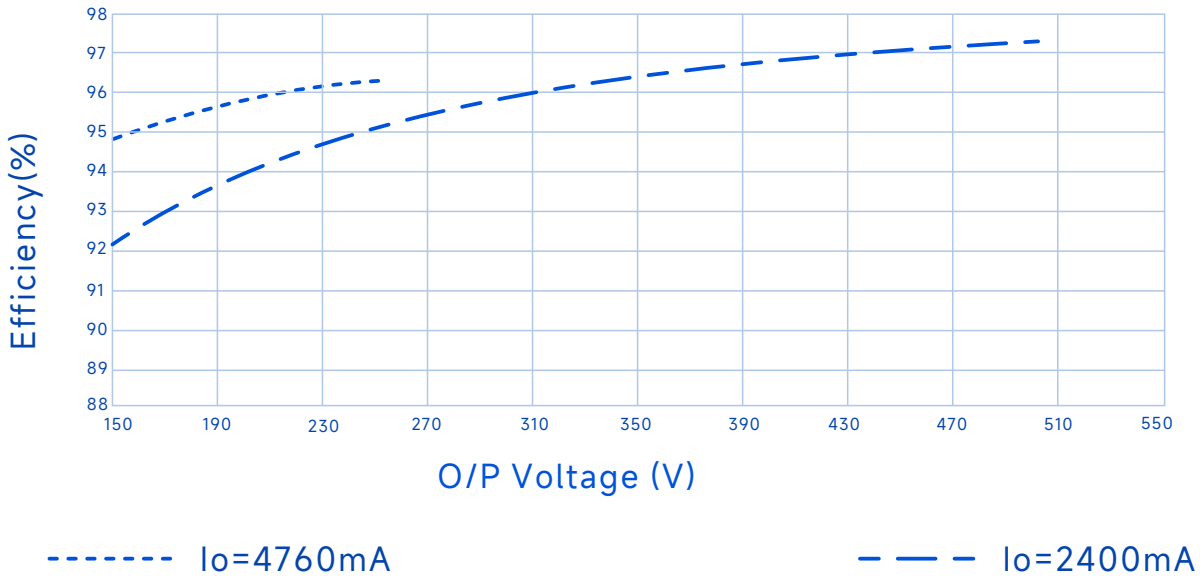
----- $I_o=4760mA$

- . - . $I_o=2400mA$

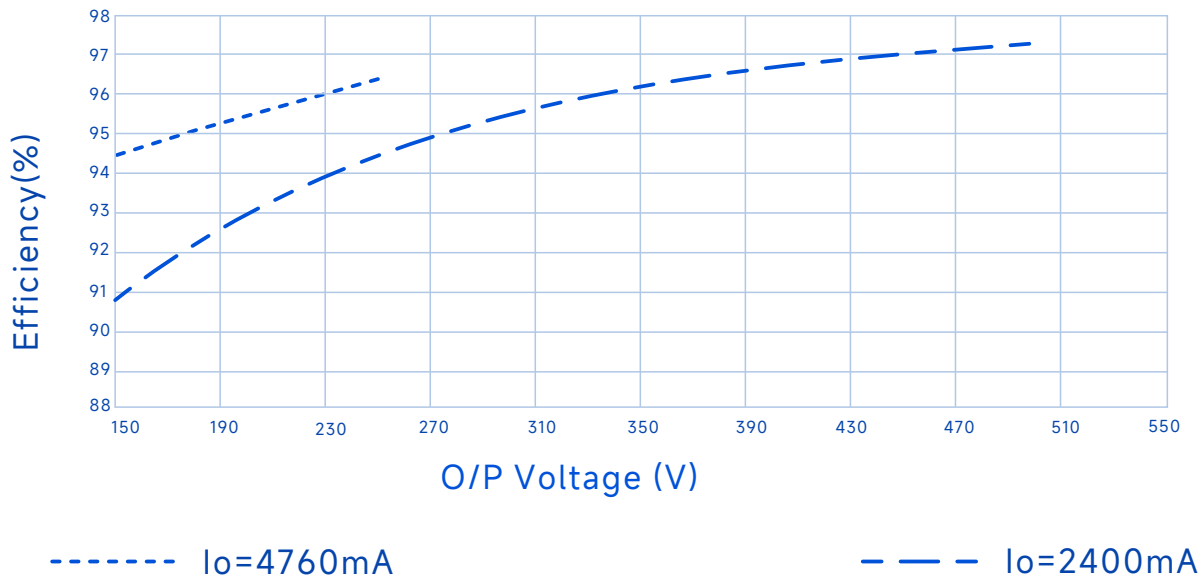
SS-1200NP-M Series LED Driver

Performance Curves:

Efficiency Vs. O/P Voltage ($V_{in}=400V_{ac}$)



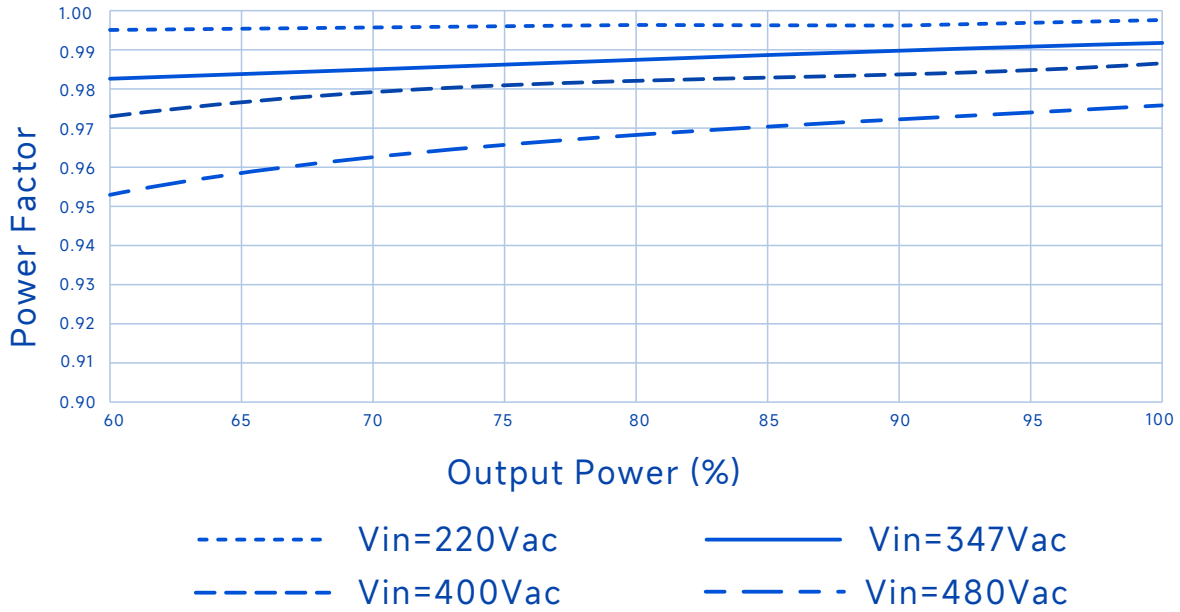
Efficiency Vs. O/P Voltage ($V_{in}=480V_{ac}$)



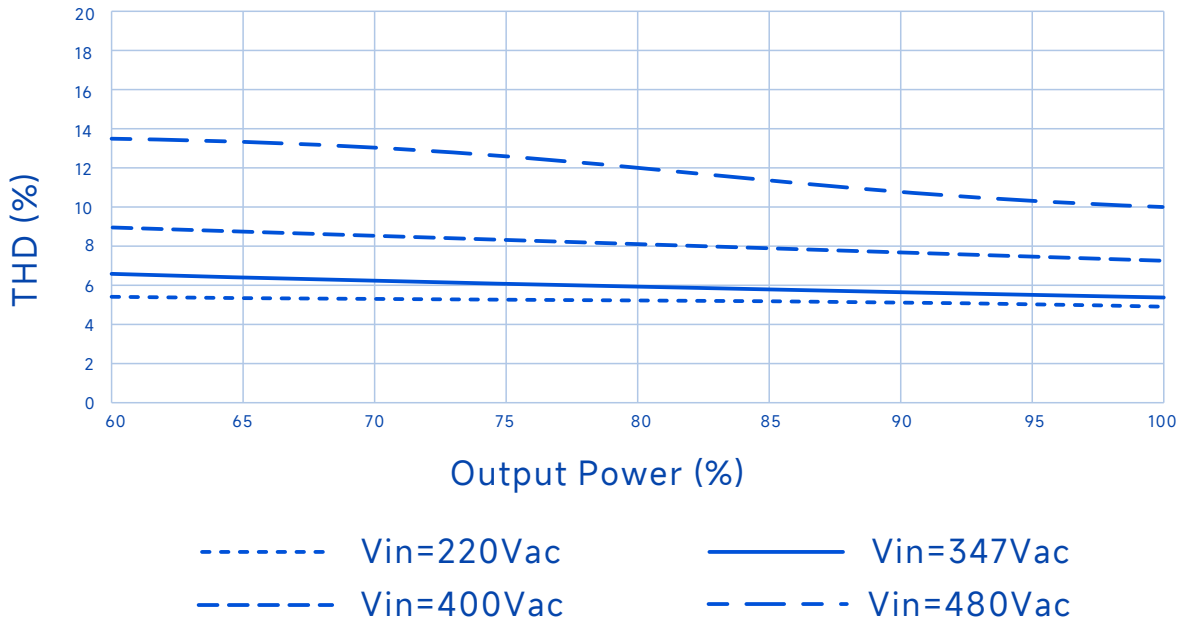
SS-1200NP-M Series LED Driver

Performance Curves:

Power Factor Vs. O/P Power



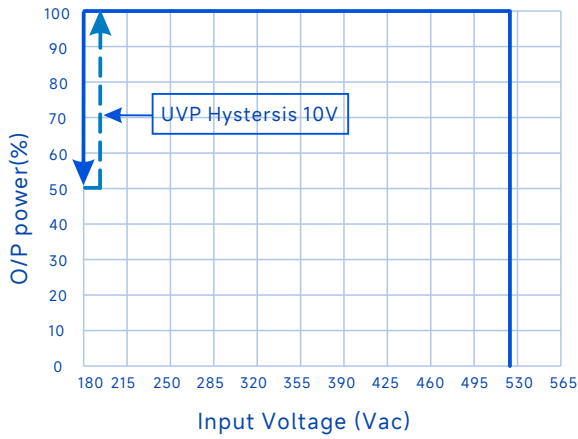
THD Vs. O/P Power



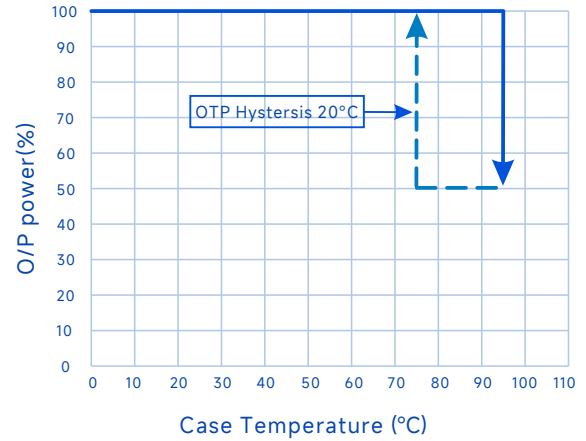
SS-1200NP-M Series LED Driver

Performance Curves:

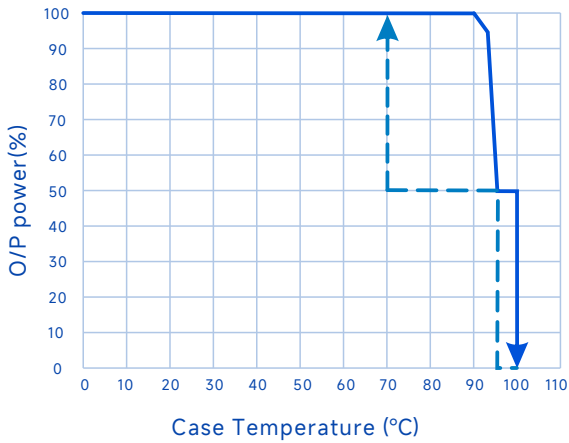
O/P Power Vs. Input Voltage



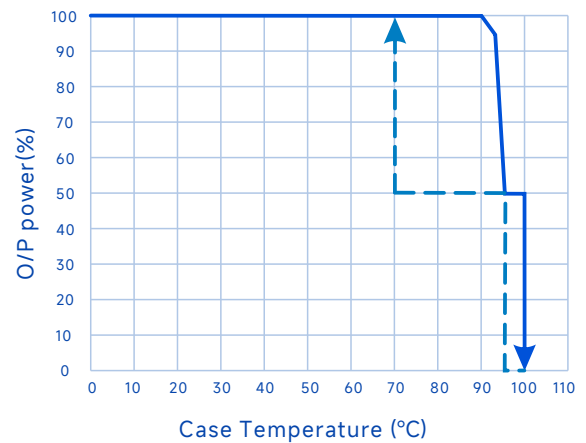
O/P Power Vs. Case Temperature (3in1 Model)



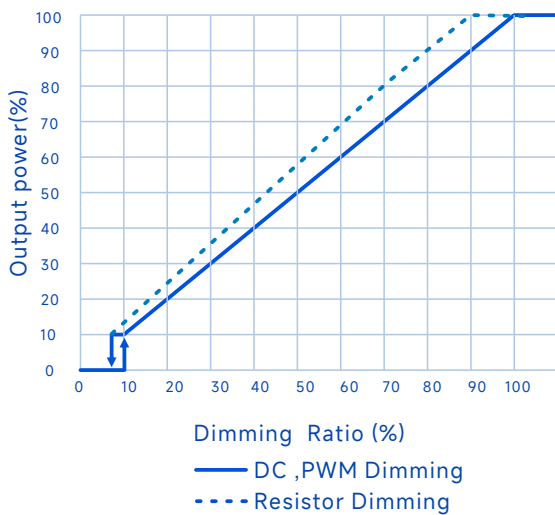
O/P Power Vs. Case Temperature (X Model)



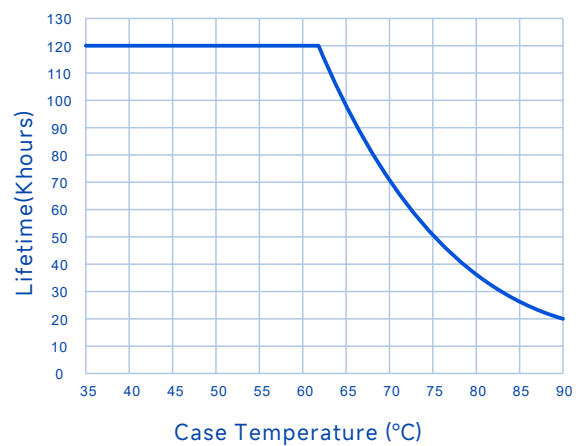
O/P Power Vs. Case Temperature (D Model)



O/P Power Vs. Dimming



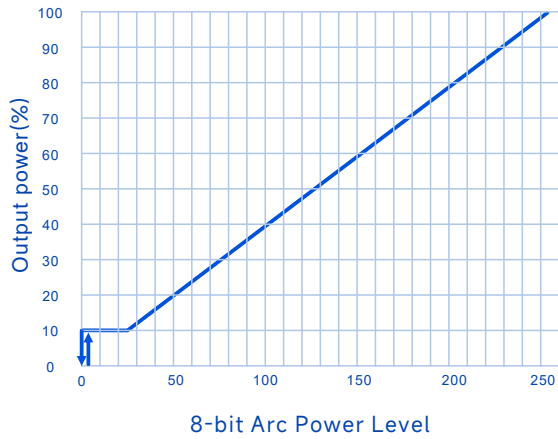
Lifetime Vs. Case Temperature



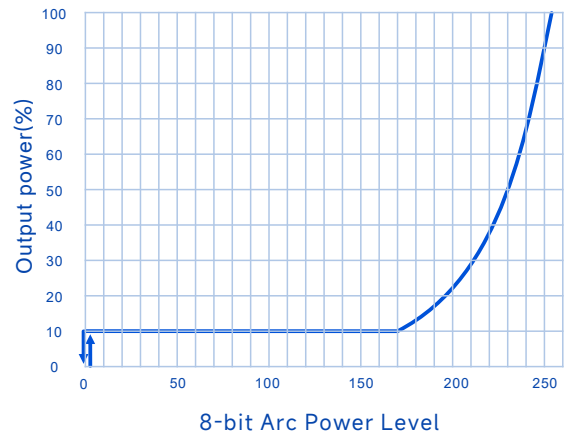
SS-1200NP-M Series LED Driver

Performance Curves:

Linear Dimming Curve:
(DALI-2/DMX Model)

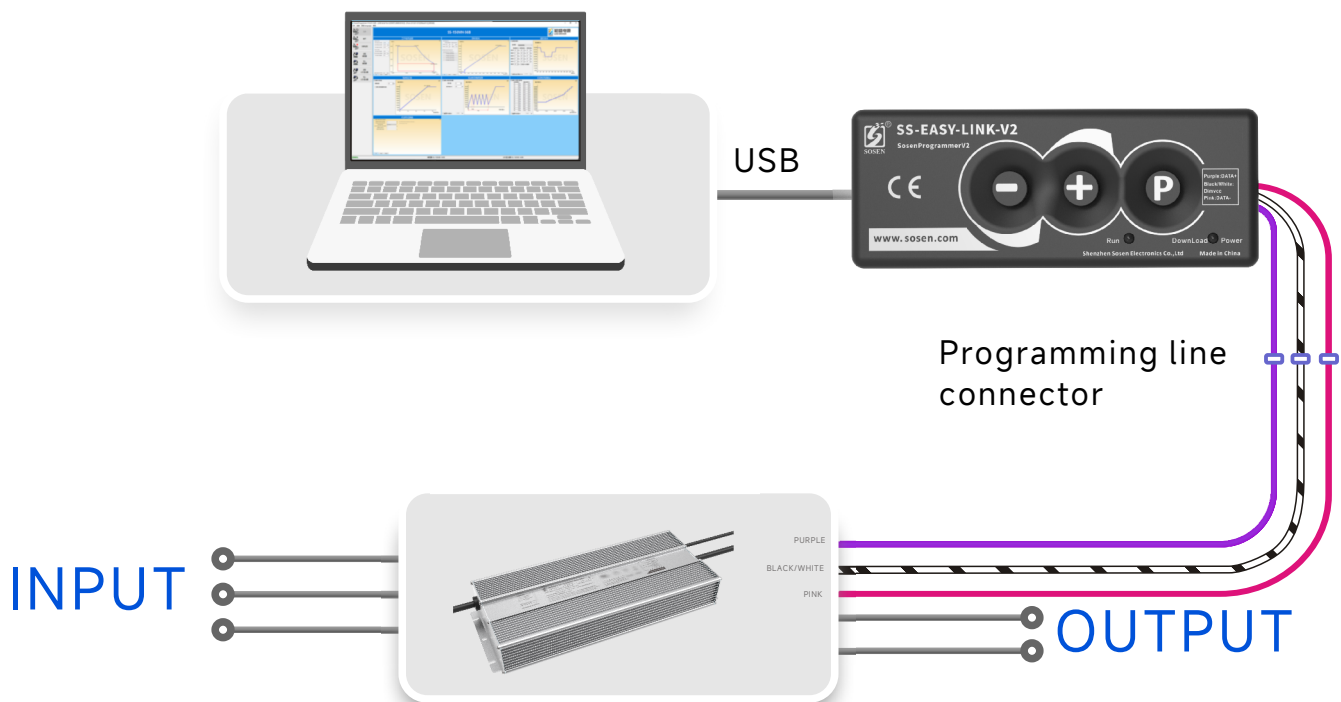


Logarithmic Dimming Curve:
(DALI-2/DMX Model)



Programming connection diagram① BH model

Legacy Timer: Driver's O/P follows the pre-programmed timing curve after turn-on.
Auto-Adjust by Percentage: Driver's O/P will be adjusted by automatically changed dimming curve by the period percentage based on the latest 5 dimming curve.
Auto-Adjust by Mid-point: Driver's O/P will be adjusted by automatically changed dimming curve by mid-point based on the latest 5 dimming curve.



1. During programming, the driver does not need to be powered on to achieve all programming functions.
2. For a driver that is powered on and in use, all programming functions can be performed without needing to disconnect the power.
3. It can operate independently of a PC to achieve offline programming.

Constant Lumen Output

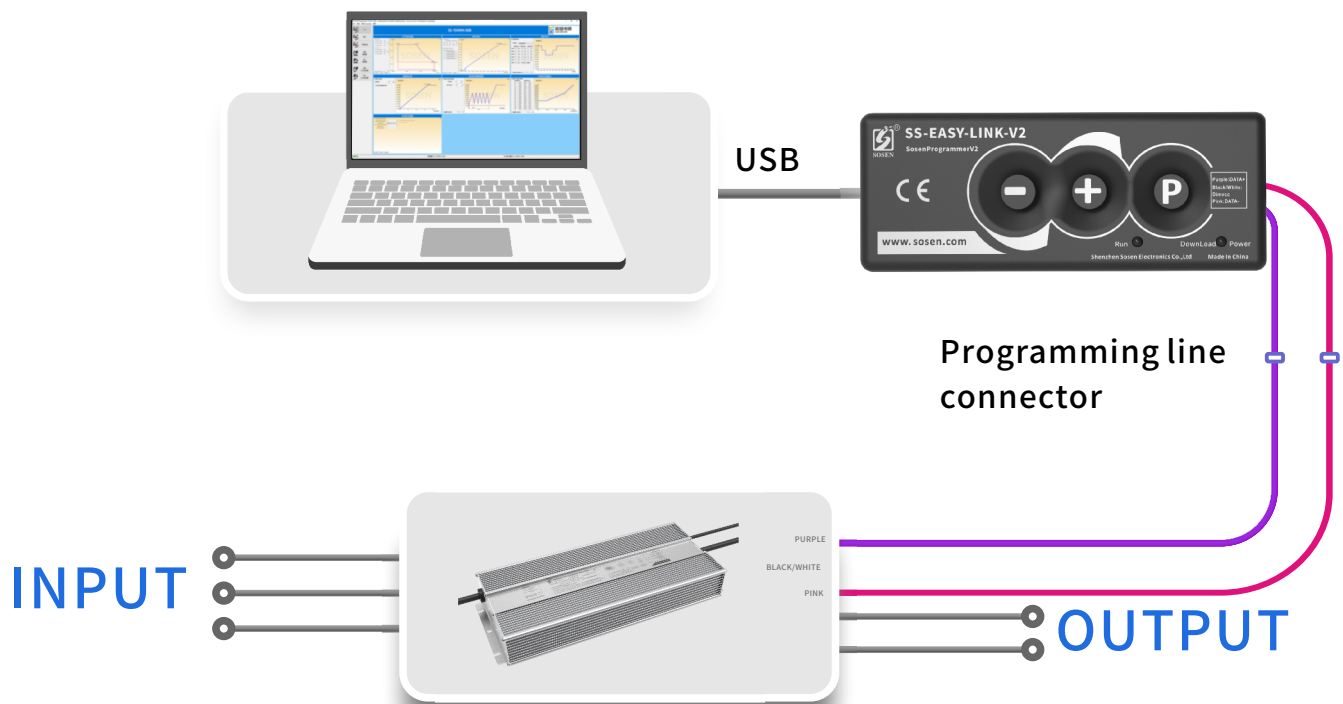
Constant Lumen Output are design to maintain fixture's stable output lumen by increasing driver's output current within driver's life span to counteract LED lumen degradation.

Programming connection diagram② DH model

Legacy Timer: Driver's O/P follows the pre-programmed timing curve after turn-on.

Auto-Adjust by Percentage: Driver's O/P will be adjusted by automatically changed dimming curve by the period percentage based on the latest 5 dimming curve.

Auto-Adjust by Mid-point: Driver's O/P will be adjusted by automatically changed dimming curve by mid-point based on the latest 5 dimming curve.



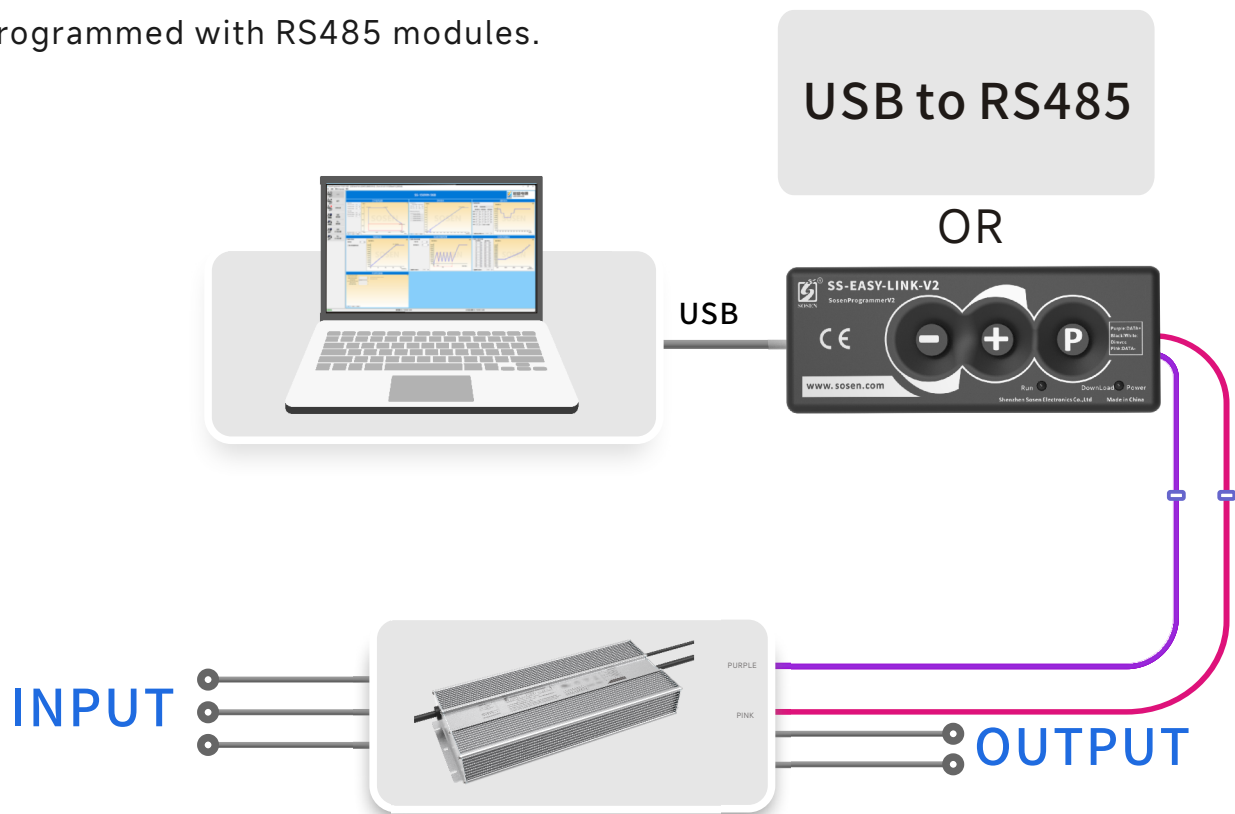
1. During programming, the driver does not need to be powered on to achieve all programming functions.
2. For a driver that is powered on and in use, all programming functions can be performed without needing to disconnect the power.
3. It can operate independently of a PC to achieve offline programming.

Constant Lumen Output

Constant Lumen Output are design to maintain fixture's stable output lumen by increasing driver's output current within driver's life span to counteract LED lumen degradation.

Programming connection diagram^③ XH model

Legacy Timer: Driver's O/P follows the pre-programmed timing curve after turn-on.
Auto-Adjust by Percentage: Driver's O/P will be adjusted by automatically changed dimming curve by the period percentage based on the latest 5 dimming curve.
Auto-Adjust by Mid-point: Driver's O/P will be adjusted by automatically changed dimming curve by mid-point based on the latest 5 dimming curve. XH model can be programmed with RS485 modules.



1. During programming, the driver does not need to be powered on to achieve all programming functions.
2. For a driver that is powered on and in use, all programming functions can be performed without needing to disconnect the power.
3. It can operate independently of a PC to achieve offline programming.
4. The V2 programmer and RS485 can both be programmed.

Note:

1. The driver needs to be powered on during programming.
2. For best performance, a characteristic impedance of 120 ohms should be maintained for the entire length of the control line.

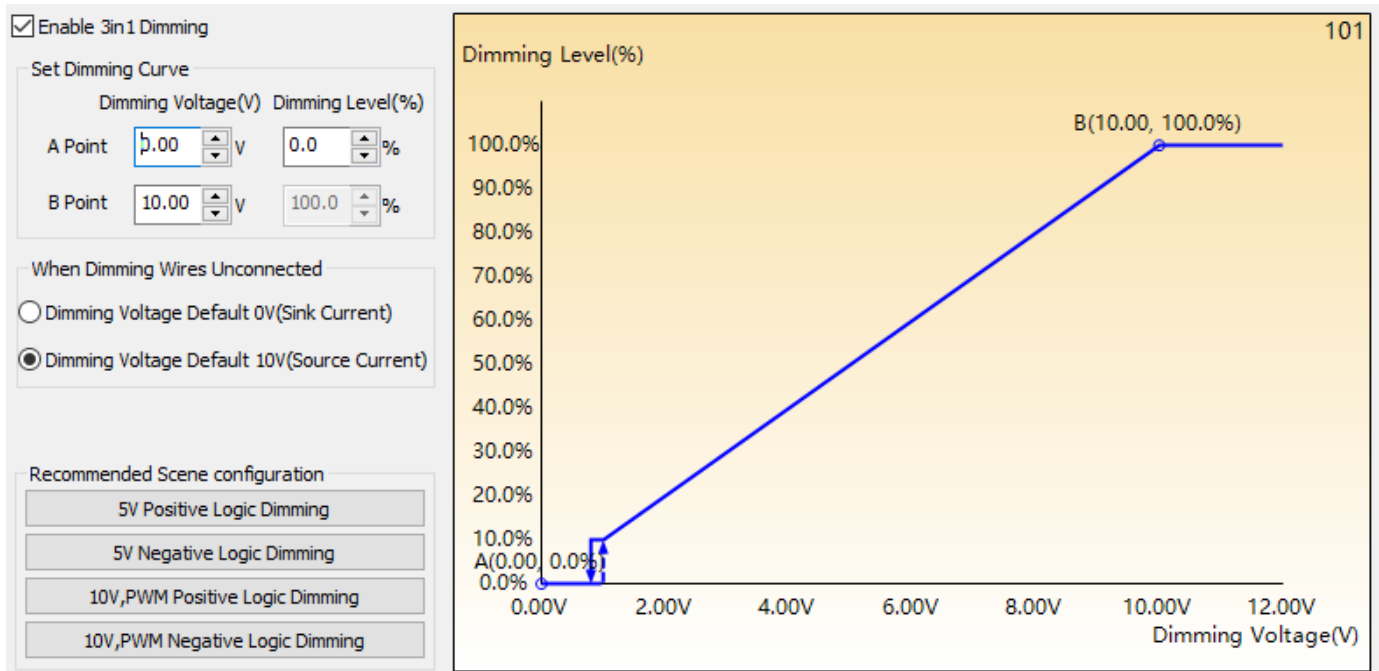
SS-1200NP-M Series LED Driver

Parameter			Remark
Default setting	Positive logic dimming (0-10V)	Dimming voltage default 10V (source current)	
	Negative logic dimming (10-0V)	Dimming voltage default 0V (sink current)	
Dimming optional function	Positive logic dimming (0-10V)	Dimming voltage default 0V (sink current) Resistance dimming not available	When the dimming wire is not connected, No output from the LED driver (to be noted in the order)
			For parallel dimming applications with multiple LED drivers, it is recommended to use the sink current mode (to be noted in the order)

Note:

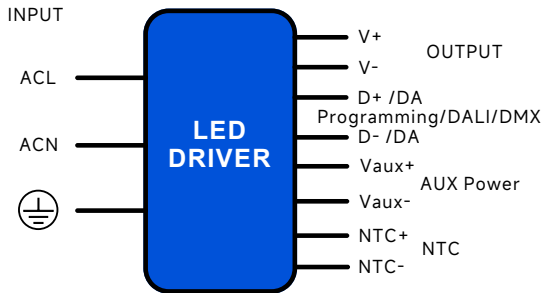
Select "Dimming voltage defaults to 10V (source current)" / "Dimming voltage defaults to 0V (sink current)", which needs to be set according to the dimmer used by the end user.

Settings Interface



SS-1200NP-M Series LED Driver

Mechanical Characteristics



AC Input Cable(Exposed Length 450±10mm):

Global model: SOOW,3*17AWG,O.D: 9.8mm,Brown:L,Blue:N,Yellow/Green: ⊕

DC O/P Cable(Exposed Length 250±10mm):

Global model: SOOW,2*17AWG,O.D: 9.3mm,Brown:V+ Blue:V-
Global model:SOOW,3*17AWG,O.D:9.8mm,Brown:V+,Blue:V-,
Yellow/Green:GND(Suffix-G) ⊕

XH/DH Model

DIM/AUX Power/Programming Cable (Exposed Length 220±10mm):

UL model: STYLE 21996, 4*22AWG , O.D: 5.6mm Purple D+/DA, Pink: D-/DA,
Black/White: Vaux+, Blue/White: Vaux-

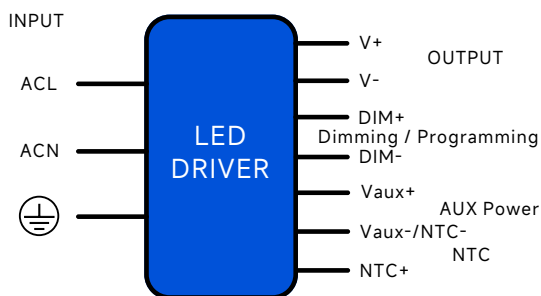
XHN/DHN Model

DIM/AUX Power/Programming Cable (Exposed Length 220±10mm):

UL model:STYLE21996,4*22AWG,O.D:5.6mm,Purple:D+/DA,Pink:D-/DA,
Black/White:Vaux+,Blue/White:Vaux-

NTC Cable(Exposed Length 220±10mm):

Global model:SJOW,2*17AWG,O.D:7.7mm,Brown:NTC+,Blue:NTC-



AC Input Cable(Exposed Length 450±10mm):

Global model: SOOW,3*17AWG,O.D: 9.8mm,Brown:L,Blue:N,Yellow/Green: ⊕

DC O/P Cable(Exposed Length 250±10mm):

Global model: SOOW,2*17AWG,O.D: 9.3mm,Brown:V+ Blue:V-
Global model:SOOW,3*17AWG,O.D:9.8mm,Brown:V+,Blue:V-,
Yellow/Green:GND(Suffix-G) ⊕

BH Model

DIM/AUX Power/Programming Cable (Exposed Length 220±10mm):

UL model: 21996, 4*22AWG , O.D: 5.6mm Purple DIM+, Pink: DIM-,
Black/White: Vaux+, Blue/White: Vaux-

BHN Model

DIM/AUX Power/Programming/NTC Cable (Exposed Length 220±10mm):

UL model: 21996, 5*22AWG , O.D: 6.0mm Purple DIM+, Pink: DIM-,
Black/White: Vaux+, Blue/White: Vaux-/NTC-, Red/White: NTC+

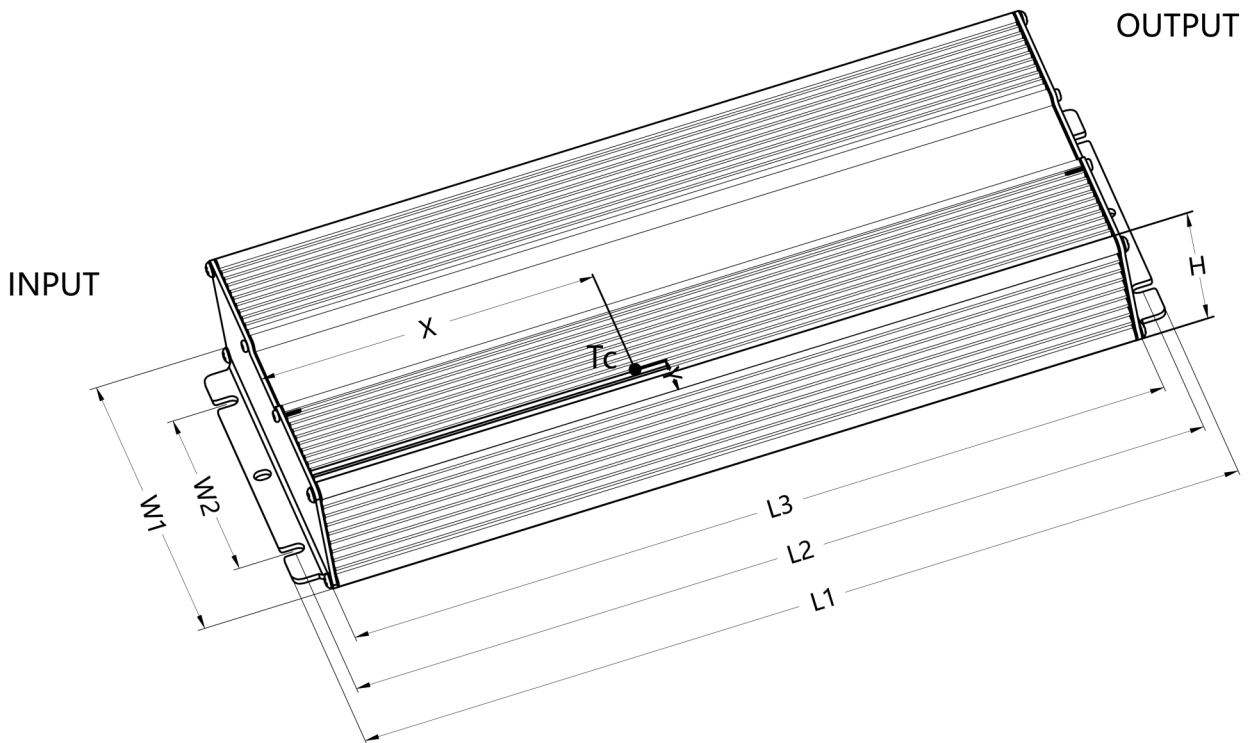
SS-1200NP-M Series LED Driver

Mechanical Characteristics

Name Description	Standard Code	mm(In.)
Overall Length	L1	302(11.89)
Mounting Hole Length	L2	291(11.46)
Case Length	L3	280(11.02)
Case Width	W1	125(4.92)
Mounting Hole Width	W2	78(3.07)
Case Height	H	44.5(1.75)
TC Point Position	X	115(4.52)
TC Point Position	Y	12(0.47)

Note

- 1, Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.
- 2, AC Input Cable, DC O/P Cable, DIM/AUX Power/Programming Cable: Peeled length of cable: 43 ± 5 mm, Tinned length of wire: 10 ± 2 mm
- 3, After testing the pressure resistance, install and tighten the lightning protection screw, and ensure that the lightning protection screw is installed when installing the lamp.



SS-1200NP-M Series LED Driver



Assembly Tips

1. Dimming or AUX Power tinned connectors should be capped if not used to avoid dimming or AUX Power parts damage from external signals.
2. Safety space between aluminum base and LED coppers >5.6mm.
3. Safety space/coppers between LED+ and LED- \geq 3.6mm.
4. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
5. It is recommended to design LED beads in parallel first and then in series.
6. The insulation level of LED light panels should meet the reliability design requirements.
7. It's recommended to add resistors or capacitors in parallel with the LED on PCB to reduce the risk of surge when a non isolated LED driver is used for the luminaire
8. For other precautions, please refer to the "LED Driver User Manual".

Package

- Outside carton dimension: L×W×H =495mm×385mm×162mm;
- 4PCS/Carton;
- Net weight/Piece: 3kg;Gross weight/Carton: 13.5kg;
- Please refer to the product name, model number, manufacturer identification, QC PASS, manufacturing date on the package.

Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be avoided direct sunlight and rain, loaded/unloaded with caution.

Storage

The product storage meets the standard of the GB 3873-83.
Products should be rechecked if stored for over 1 year before assembly.

RoHS

Products comply with RoHS Directive (2011/65/EU) and amendment 2015/863/EU.

Revision History

Version	Description of Update	Updated Date	Remark
V00	Original Release	2025/03/24	
V01	Version Upgrade	2025/04/17	
V02	Delete DAL and DMX model content	2026/03/13	
V03	Update model content	2026/06/26	